



**Chinook**

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April 17, 2009  
DASC / Brian Craddock/ SAAL-SAI / 703-604-7019  
SSO / Dave Heaton / DAPR-FDV / 703-697-2277

**Chinook**





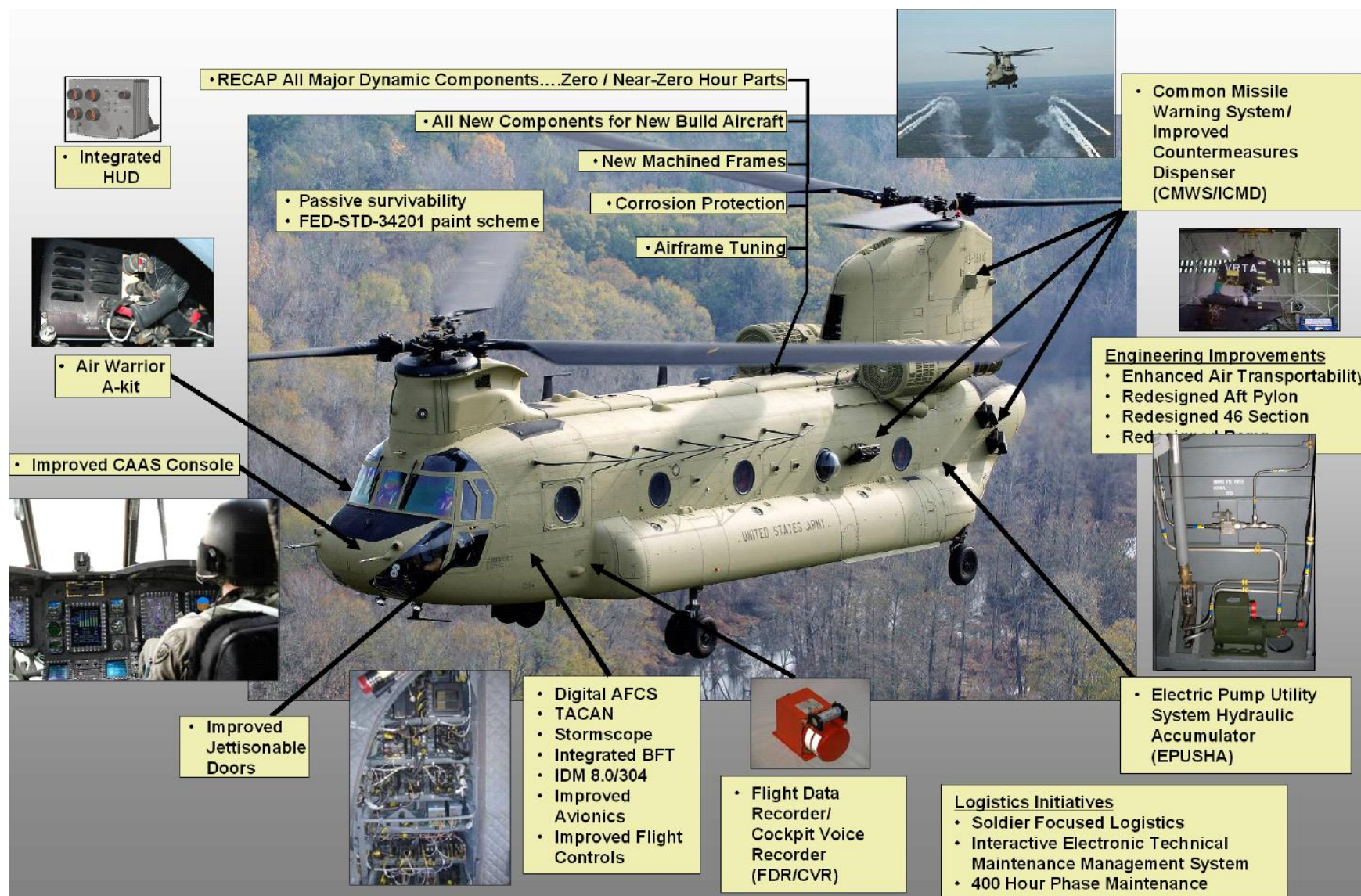


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## Illustration / Cutaway



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## System Description

### **Mission Statement:**

A Future Force recapitalization system that is designed to transport ground forces and cargo to worldwide combat and contingency operations, and which supports the Army Vision.

### **Characteristics / Description:**

- The Army's only heavy-lift cargo helicopter
- CH-47F Recapitalization
  - » New airframe and vibration reduction
  - » Upgraded digital cockpit - Common Avionics Architecture System (CAAS)
  - » Recapitalized components
- CH-47D Modifications: Engine upgrade; Electric Pump Utility System Hydraulic Accumulator (EPUSHA); Electronic Control Unit (ECU)

### **Capability / Improvements:**

- Empty Weight: 24,578 pounds
- Maximum Gross Weight: 50,000 pounds
- Maximum Cruise Speed: 160 knots
- Troops / Litters: 31 / 24
- Lift: Intra-theater payloads up to 16,000 pounds in high / hot environment

### **Special Features:**

- T55-GA-714A engine upgrade increases payload carrying capability by as much as 3,900 pounds
- New airframe extends useful life 20 years
- Recapitalization (10%) and airframe vibration reduction (15%) projected to reduce O&S costs by 25 percent
- Upgraded common cockpit enables multi-service digital compatibility and interoperability

### **Contractors:**

Boeing - Philadelphia, PA - Aircraft and Recap - \$856.5M

Rockwell Collins - Cedar Rapids, IA - Software - \$84.6M

Honeywell - Phoenix, AZ - Engine - \$73.7M

Goodrich - Danbury, CT - Engine Controls - \$30.9M

Protective Materials - Miami Lakes, FL - Ballistic Protection System - \$29M



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## Schedule

Event Name	FY 08				FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FRP	Full Rate Production																															
(1) Second Unit Equipped	<div><div></div><div>1</div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>																															
(2) Third Unit Equipped	<div><div></div><div></div><div></div><div>2</div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>																															
(3) Fourth Unit Equipped	<div><div></div><div></div><div></div><div></div><div>3</div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>																															
(4) Ft. Rucker Assumes Training	<div><div></div><div></div><div></div><div></div><div></div><div>4</div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>																															
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February 8, 2008  
DASC / Brian Craddock/ SAAL-SAI / 703-604-7049  
SSO / Dave Heaton / DAPR-FDV / 703-697-2277

## Program Funding

### FY08 President's Budget (AF 3.0 As of January 26, 2007)

	Prior	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	CTC	Total
RDTE	121.7	41.6	28.9	11.2	10.0	11.1	11.3	0.0	0.0	0.0	235.8
PROC	6,694.2	671.2	1,132.1	772.8	1,186.5	922.5	1,132.8	1,418.8	922.4	6,781.2	21,634.5
<b>Total</b>	<b>6,815.9</b>	<b>712.8</b>	<b>1,161.0</b>	<b>784.0</b>	<b>1,196.5</b>	<b>933.6</b>	<b>1,144.1</b>	<b>1,418.8</b>	<b>922.4</b>	<b>6,781.2</b>	<b>21,870.3</b>

### FY09 President's Budget (AF 3.0 As of January 2, 2008)

	Prior	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	CTC	Total
RDTE	121.7	41.6	29.0	21.0	10.0	11.1	11.3	0.0	0.0	0.0	245.5
PROC	6,694.2	671.2	1,310.8	1,101.6	1,169.7	914.7	1,123.2	1,350.7	856.1	6,767.2	21,959.4
<b>Total</b>	<b>6,815.9</b>	<b>712.8</b>	<b>1,339.8</b>	<b>1,122.6</b>	<b>1,179.7</b>	<b>925.8</b>	<b>1,134.5</b>	<b>1,350.7</b>	<b>856.1</b>	<b>6,767.2</b>	<b>22,204.9</b>

<b>Prg Chg</b>	<b>- 0 -</b>	<b>0.0</b>	<b>178.8</b>	<b>338.6</b>	<b>-16.8</b>	<b>-7.8</b>	<b>-9.6</b>	<b>-68.1</b>	<b>-66.3</b>	<b>-14.0</b>	<b>334.7</b>
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- FY09 PB 10-13 RDTE: \$32.4 M
- FY09 PB 10-13 PROC: \$ 4244.7 M
- FY09 PB 10-13 OMA: \$162.7 M



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## Requirements and Unit Costs

### QUANTITY / REQUIREMENTS

- Requirement: 513 CH-47 Aircraft (AAO)
- Inventory: 407 CH-47 Aircraft plus 54 MH-47 Aircraft
- Procurement Objective:
  - » 452 CH-47F Aircraft, 61 MH-47 Aircraft
  - » Attrition is 1.5 Aircraft per year
  - » 1150 Engine Upgrades (full fleet)

### UNIT COST DATA

#### OVER THE TOTAL PROGRAM -- TY\$

<u>Unit Costs (\$M)</u>	<u>Then-Year \$</u>
• Flyaway	24.6
• Weapon System	25.6
• Procurement	25.8
• Program Acquisition	26.1

### O & O / ORD

### FIELDING

<u>UNIT</u>	<u>ORG</u>	<u>QTY</u>	
Hvy Helo Co	Division	19 (1x12)	• CH-47F fielding began in FY07
Hvy Helo Co	Theater	9 (1x12)	• CH-47F FUE in FY07 was 101 Air Assault Division
Hvy Helo Plt	Theater	1 (1x4)	

<u>Program (\$M)</u>	<u>Then-Year \$</u>
• RDTE	171.5
• PROC	13209.0
• Total	13380.5

Source: FY09 President's Budget





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### Current Status

- **Fielding:**
  - CH-47F FUE completed in FY07 (101 AA DIV)
  - 4th ID fielded in 2Q FY08.
- **Cost:**
  - Earned Value Cost Performance Index: 0.99
- **Schedule:**
  - Earned Value Schedule Performance Index: 0.99
- **Testing:**
  - IOT&E successfully completed in 2Q FY07.
- **Funding:**
  - FY09 RDTE: \$10.0M - Engine and airframe improvements.
  - FY09 APA: \$1169.7M - 15 CH-47F/MH-47G recap aircraft, 23 CH-47F new build aircraft, and various safety/operational modifications.
  - FY10 RDTE: \$11.1M - Engine and airframe improvements.
  - FY10 APA: \$1002.3M - 14 CH-47F recap aircraft, 21 CH-47F new build aircraft, and various safety/operational modifications.
- **Technical:**
  - CAAS and new airframe are being installed on F models.
  - FY07 IOT&E successfully demonstrated all KPP's.
- **Issues:**
  - None